

# THE HUNTERIAN ORATION

ON THE

## LIFE-WORK OF JOHN HUNTER, AND HIS INFLUENCE ON SURGERY.

*Delivered before the Hunterian Society on February 8th, 1888.*

By R. CLEMENT LUCAS, B.S., F.R.C.S.,

President of the Society.

THE biographies of great men form conspicuous landmarks in the histories of nations like the mountains to our plains and the capes and promontories to our ocean shores. Without them the records of time would be as uninteresting in their monotony as the tedious columns of a banker's ledger, where every figure must fall with wearying regularity into one of the three spaces devoted to pounds, shillings, and pence. There would be reiterated repetition without relief, and a dull monotone would be the only sound heard in a chorus of universal platitudes. But, happily, high above the hum of the multitude, back from infinite space which time overshadows, come the voices of the great, ever calling to us to follow in their footsteps, and to search out the labyrinths of Nature by the aid of the lamp of truth. First among surgeons of immortal renown will ever remain the name of him in whose honour we have met together to-night, and after whom this Society takes its name, the illustrious John Hunter. By his beacon light the reputations of all future generations of surgeons will be tested; and whereas it may be safely predicted that the flickering light of many will disappear like the light of the stars before the rising sun, yet it may still be hoped that the world may create and this nation produce surgeons whose genius will in after years shine with as steady a light as that of the planets in the universal ether. Let us turn to the history of this great man's life, to see if we can discover in it the secret of his power, or learn how to train ourselves, in however distant a way, in the direction of this ideal. Was it by birthright, by the aid of parental wealth, that he gained a start over his fellows in the race of life? Anything but this. Was it by early mental culture, by the careful and exact training of cultivated minds in his early childhood, that he learnt the lesson of his life? No, far from this. The youngest son of a Scotch laird, his home was in the wilds of rugged Scotland, and his early education only that of a village school. Till early manhood his mind lay fallow, like his father's acres under the leaden sky of winter. True, his parents were persons of keen intelligence, if not of the highest culture, and under their roof his mind would be steadied in virtue and guarded from vice. But the records of his boyhood show no promise of pre-eminence. The time was idly spent and uneventful. We cannot even discover that he displayed any inquisitive interest in the structure of the birds or reptiles that in boyish mischief he may have captured. There is no indication of the future biologist in the boy, and nothing whatever to indicate the great scientific mind that lay in him as yet undeveloped. But, mark you, he comes of that sturdy yeoman stock that in the previous century had produced a Newton, and his two elder brothers had already shown signs of high intellectual power. These two, migrating to London, were becoming distinguished in the medical profession. The eldest dies young, but the second son, William, is destined to be the magnet that attracts the youngest towards intellectual pursuits, and through him John Hunter derived that inspiration which roused his hitherto chrysalid mind to the mighty exertions of after years. Little can we learn from such a boyhood. It is devoid of those little incidents upon which biographers delight to lay so much stress as indicating the bent of the developing mind. There is nothing corresponding to the boyhood of the great general who loved more than other boys to play with cannon, or to that of the great engineer who delighted in mechanical contrivances. All we have to contemplate is a wide uncultivated field, but the adjoining acres indicate that the soil is fertile if sown with the appropriate seed. The first venture is unsuccessful. At the age of 17, John Hunter is sent to assist a failing brother-in-law, who is a cabinet maker in Glasgow. As well might his friends have attempted to grow a succulent water-lily on the Surrey sand hills as to force such a calling upon the unwilling youth. The result is failure, and he returns again to home and idleness. Thus the first twenty years of his short life of sixty-five are, as we now judge, lost—or, at least, unproductive. Whether years that in their own time prove

unproductive are, when added to the human cycle, to be regarded as lost is an interesting problem. If so, then hours spent in healthy exercise—inasmuch as they seldom lead to immediate intellectual results—may be regarded as lost also. And sleep, even, that “foster-nurse of Nature,” may be blamed for her apparently unproductive hours. But if those twenty years of mental repose led to the storing up of energies which in after years produced such magnificent results, then must they not be regarded as lost, but as potential. It is possible even that this storing up of energies by lack of opportunity had been present in the family of Hunters prior to the generation in which John was born. It is certain that the strain of blood derived from Hunter's parents was capable of supporting the highest intellectual attainments, as evidenced not only in Hunter and his brothers, but afterwards in the family of Baillies, one of whom married his sister.

John Hunter was the youngest and tenth child, but only five of the family lived to adult age. It may be interesting to those in search of the origin of genius to note that there was a great difference between the ages of Hunter's parents, and that the father was verging on his seventieth year when John was born. He lost his father when 10 years of age; to this circumstance and to his mother's indulgence is attributed the neglect of his early education. This defect followed him throughout life. His grammar is often incorrect, his sentences clumsy and obscure, and his expressions coarse, or at least inelegant. But a vigorous intellect and irrepressible will struggle through all the difficulties resulting from his defective tuition, and in this we recognise the impulsive force of true genius. To how many would such an education have proved an impassable barrier to higher intellectual attainments! Ignorant of any language but that of his birth, and but little skilled in using even this, we find him twenty years of age before his mind commences to unfold. Then comes the turning-point of his whole life, that

Tide in the affairs of men,  
Which, taken at the flood, leads on to fortune;  
Omitted, all the voyage of their life  
Is bound in shallows and in miseries.

This turning-point is a letter which he addressed to his distinguished brother William, “requesting to be allowed to join him in London, and offering his services as an assistant in the dissecting-room.” The reply was favourable, and contained a kind invitation to visit London. Now, mark you, this is apparently the first time that Hunter attempts to direct his own path in life. It is his own initiative. Before, he shows no liking for the parental acres. He is said to be attached to country sports but negligent of farming. His fond living parent, having neglected his education, thinks that he may earn an easy living by falling into the business of a dissipated brother-in-law. From this he returns in disgust and failure.

The tendency of parents generally is to place their sons as soon as possible into positions of ease, regardless of their inclinations; but there is this consolation, that men of genius commonly break through all restraint, and eventually determine for themselves their paths in life. It was so with the Hunters. Why parents too often fail to direct aright their children's futures if it is not difficult to understand; for youth strives for distinction, age for affluence. Having arrived at a time in life when they begin to feel the burden of work and the luxury of rest, when they desire to defend their sons from the toils and dangers by which alone distinction can be secured. Happily for the world, the two Hunters broke loose from parental guidance, and found in the medical profession that scope for intellectual activity to which their minds were best adapted.

Let us rest for awhile from the contemplation of John Hunter's life to study the character of that elder brother, William, who henceforth is destined to exert so powerful an influence on his career. William is ten years his senior, and was sent to Glasgow University at the age of 14 to read for the clerical profession. After five years of study his tastes lead him in another direction, so that at the age of 19 we find him at Hamilton, with a young doctor named Cullen. Three years with Cullen intensify his love for the medical profession, and he proceeds first to Edinburgh, then to London, to study, with the object of becoming Cullen's partner. At the age of 23 he is in London, residing with Dr. Douglas, a celebrated anatomist of that day, whose house he enters in the double function of anatomical assistant and preceptor to his children. Here wider fields are opened for his talents, and once more we find him asserting his own judgment. His father doubts the wisdom of this step, and writes strongly urging him to adhere,

by day as to the great value of revaccination in mitigating the severity of small-pox epidemics, should stimulate local vaccination authorities to promote revaccination as well as primary vaccination in their districts. The step which has been taken by the Local Government Board will greatly facilitate any such action by enabling the revaccination to be performed whilst children are still at school, and before they have actually entered upon the serious battle of life. We trust that boards of guardians will, as we have often urged, take more special measures in the future than has been the rule in the past, to encourage the revaccination of young persons immediately the age of 12 years has been reached.

#### LORETA'S OPERATION ON THE STOMACH.

SOME two months ago Mr. Treves performed this operation at the London Hospital upon a man suffering from fibrous stricture of the pylorus. At the time of the operation the patient was very much reduced by pain and constant vomiting, and had been for some time unable to take food by the mouth. The abdomen and stomach were opened, and through the incision made in the viscus the pylorus was dilated with the fingers. The man made a rapid recovery, and has not vomited since the operation. He can now take any food well. The case will be shown at the next meeting of the Clinical Society.

#### DEATH OF MR. J. H. WALSH.

WE regret to see the announcement of the death of Mr. J. H. Walsh, who, though a medical man, was best known as the author (under the *nom de plume* of "Stonehenge") of a number of very popular works on British sport, and who since 1857 was the editor of the *Field*. Mr. Walsh was born in 1810, and became a Fellow of the Royal College of Surgeons. He practised as a medical man in Worcestershire until 1852, when he quitted the provinces for the metropolis, and subsequently spent some time abroad. He ultimately settled in London, and devoted himself to literature as a profession. He was an acknowledged authority on sport of all kinds, and published the following works: *Horse in the Stable and the Field*, *Shot Gun v. Rifle*, but he was best known perhaps as the author of *British Rural Sports*, a work which went through many editions. He also published *Domestic Economy*, and *Domestic Medicine*, and in 1858 the *Dog in Health and Disease*. Some years later he wrote the *Dogs of the British Islands*, which passed through several editions, and in 1882 he produced the first volume of the *Modern Sportsman's Gun and Rifle*, the second following in 1884.

#### A CONTRADICTION.

A STATEMENT has been going the round of the public press which has caused a good deal of severe comment, to the effect that a poor woman, in a condition which demanded immediate care and succour, was carried by a policeman and some women to the Lying-in Hospital, Endell Street, which was near at hand, and that the authorities refused to admit her; that, suffering as she was, she was taken from there to the workhouse, though she piteously begged to be taken "anywhere but there." As might have been anticipated, we find on inquiry that the facts as stated, with respect to the Endell Street Hospital, are a pure invention. No application, we are informed, was made to admit the woman at that institution. She was, it appears, delivered of her child in the street close by, without any attempt being made either to summon one of the staff or to take her to that hospital. She was, as a matter of fact, on her way to the lying-in ward of the workhouse next door, and had not thought of going to the hospital. Had the incident been known to the medical staff, no question would have been asked as to whether she was married or single, but the woman would have been taken in and kept for at least eighteen days.

#### MEMORIAL TO THE LATE SURGEON-MAJOR

T. R. LEWIS.

THE subscribers to the above memorial will be glad to learn that the reprinting of Dr. Lewis's collected scientific works has now nearly approached completion, much delay having been occasioned by the reproduction of numerous maps and lithographs. The volume, in crown 4to., when completed will contain about 800 pages illustrated by 5 maps, 24 copperplate engravings, 15 chromolithographs, and numerous woodcuts, with a portrait of the author, in autotype, forming a fitting memorial of one who devoted his life to scientific medical research. It is hoped that intending subscribers will give in their names as soon as possible to the Honorary Secretaries, care of Messrs. Holt, Laurie and Co., 17, Whitehall Place, S.W., as it is especially wished that the names of all supporters of the memorial (each subscriber of £1 receiving a copy of the reprinted works) should appear in the list of subscribers, which will appear as an appendix to the volume.

#### ZOOPLASTIC GRAFTS.

SURGEONS are familiar with skin grafting in the human subject, but it is rather a novel procedure to substitute the skin of birds and poultry for snips from the patient's own healthy skin. Wiesmann twice transplanted skin from pigeon to pigeon with success, and three times from fowl to fowl. Under the title of *Dermepenthesis*, Mr. G. F. Cadogan-Masterman published some interesting cases a few weeks since in our columns, in which he had succeeded in utilising the skin of young wild rabbits for the purpose of bringing about the cicatrisation of raw and ulcerating surfaces. Several others have repeated and varied Wiesmann's experiments, but before Mr. Masterman none of them seem to have been enterprising enough to spare their patients the disagreeable snipping incidental to the operation as it is usually practised. At about the same time Dr. Redard communicated to the Paris Academy of Medicine some observations of his own with animal grafts on wounds in human beings. In a case of severe burn of the scalp of eight months' standing, in a child 2 years of age, he obtained a rapid cicatrisation by means of grafts from a fowl. He first tried grafts of frog's skin, but as these proved to be repulsive to patients, and did not give very good results, he substituted others from the fowl, and the wound, which measured three inches by two and a half, had completely healed in two months. He had been equally successful in other and subsequent cases. He takes the skin from beneath the wing of a chicken, carefully securing the subjacent cellular tissue, but avoiding adipose tissue. The transplanted pieces varied from a sixth to a third of an inch in size, and they were maintained in position by means of a little cotton-wool and iodoform gauze. The skin of birds and fowls has the advantage of being supple, delicate, and vascular; it adapts itself readily to the surface of the wound, and adheres without undergoing absorption.

#### THE HUNTERIAN SOCIETY.

THE annual dinner of the Hunterian Society was held on Friday evening last; Dr. Gervis, President, in the chair. There was a large attendance, including Dr. Robert Barnes, Mr. Clement Lucas (President-elect), Dr. Holman (Reigate), Mr. Ernest Hart, Dr. Savage, Dr. Galabin, Mr. de Berdt Hovell, Dr. F. Charlewood Turner, Mr. Bland Sutton, Mr. Stewart (Conservator of the Hunterian Museum), and other guests and members of the Society. After proposing the usual loyal toasts, the Chairman referred to the long-standing prosperity of the Society, and the valuable contributions which its members had made to clinical and scientific medicine, enumerating a long list of eminent surgeons and physicians—Buzzard, Curling, Bright, Herbert Davies, and others—who had taken a deep interest in the work of the Society. It was one of the specialities of the Society that it had hitherto pursued

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## ORIGINAL ARTICLES.

### NOTES ON PROGRESSIVE STUDIES IN ETIOLOGY, AND ESPECIALLY AS TO MICROÖRGANISMS AS SOLE FACTORS OF DISEASE.

BY EZRA M. HUNT, M.D.

SECRETARY OF THE NEW JERSEY STATE BOARD OF HEALTH, TRENTON, N. J.

FOR the past few years no subject has more attracted the attention of physicians and sanitarians than the relations of microorganisms to disease. So soon as medical experience and some approach toward science began to take the place of superstition it could not but be that inquisitive minds would seek to know the cause of disease. This was especially the case with epidemics that seemed to light on persons and places regardless of choice. It was at once natural and plausible to maintain that the visitation was independent of locality. The wind bloweth where it listeth. It is "the epidemic constitution of the atmosphere" was the learned phrase under which ignorance of causation was concealed. So in 1839 we hear Dr. Farr, the Registrar-General of England, saying:

"Difficulties in the history of plagues and contagious diseases of every description have generally been disposed of summarily by the hypothesis that the disease is always introduced from without and spreads naturally—like a conflagration. It is true that they are frequently introduced thus, but this neither proves that all diseases are always thus introduced, nor does it at all show the relation of the number of cases of seizure or of mortality to the conditions of persons and surroundings."

It was not long before the awakening medical mind began to suspect that it was necessary to guess about or explain what this impalpable vapor, particle, or thing might be which *introduced* the pestilence. Fortunately, many conceived that there were other practical questions also, such as, How to limit extension and mortality after arrival? But there were some early inquiries in the direction of seeking the relation of certain living particles to disease. About fifty years ago, Dr. Holland, in his *Medical Notes and Reflections*, discussed the hypothesis of infusoria as at that time a more probable doctrine than that of vegetable parasites. In the *British and Foreign Medical Review* for April, 1840, is to be found the following:

"The hypothesis that the causes of epidemics are generations of minute insects transmitted from one individual to another through the medium of the atmosphere, has been ingeniously put by Dr. Holland, in his *Medical Notes and Reflections*. Henle, of Berlin, has supported

the theory by new facts and analogies. The diffusion of contagion has a close analogy with fermentation; and Cagniard-Latour and Schwann have shown that fermentation is the decomposition of organic fluids by minute vegetables of the lowest class. Putrefaction is a destruction of organic matter effected by infusoria, and not a mere decomposition into elements. One contagious disease, the muscardine of the silk-worm, is known to depend on the development of a vegetable parasite. The germs are innumerable, and spread with the greatest rapidity. In mixtures, certain genera of infusoria appear, and then give place to new genera. Individual cases of disease may be caused by one generation of parasites; an epidemic by successive generations. Each epidemic disease has its specific animal contagion, its specific genera of infusoria. Henle has proved the existence of this cause, and the theory in every way but one; he has never seen the epidemic infusoria. The omission is, no doubt, important; and the more so on the part of Henle, who is justly considered one of the best microscopic observers in Germany. The infusorial hypothesis does not satisfactorily explain the cause of epidemics; it accounts for them by the creation of animalcules, but does not show why the animalcules are created at distant times in swarms. The phenomena of swarms of insects, of blight, and of infusorial generation may suggest investigation, but in the present state of pathology they cannot supply its place."

Earlier than this, in 1833, Dr. Tyler had enunciated the fungoid doctrine of disease as accounting for the origin of the cholera in India. This pamphlet of sixty pages was entitled "Facts Establishing the Deleterious Properties of Rice as an Article of Food," see *Lancet*, vol. 1. 1833-4. In 1838, Boehm, of Berlin, had written his article "Die kranke Schleimhaut in der Asiatischen Cholera, Berlin, 1838." As to it in 1866 Sir John Simon said:

"If the doctrine of a cholera-fungus should hereafter be substantiated, it will probably be conceded that Boehm deserves the credit of having first published a thoroughly valid account of the phenomena of cryptogamic vegetation in choleraic intestines and discharges, and Hallier's researches do not better join on to the recent essays of Thomé and Klob, than they might have joined, in 1838, on to those of Boehm. The fifth section of his admirable little book is entitled 'Ueber das Vorkommen der Garhungskeime (Pilze) im Nahrungs-kanal der Cholera-kranken.'" In it he describes as almost constant, that the whole extent of the intestine (but generally the large intestine the least) teems with a vegetation of microfungi; that innumerable round and oval, or more elongated, corpuscles are to be found in all the vomit and dejections as well as in the canal; sometimes single, sometimes two, three, four, or more joined end to end, as links of a chain; and these chainlets sometimes branching; that such forms are held together in mucous flocules and come best to light when liquor potassæ is used; that within the small intestine they are often so numerous that not the smallest specimen will fail to show numbers of roundish, fungic forms amid the débris of epithelium. He appends an illustration which shows quite

with other combinations, such as fir wood oil, one part, and fluid cosmoline, two parts; or the following:

R.—Tr. iodinii comp. . . . . ℥ vij.  
 Tr. conii . . . . . ℥xv.  
 Glycerinæ . . . . . ℥iv.  
 Aq. . . . . ℥iv.—M.

Use in vaporizer.

R. Acid. carbolic. . . . . ℥ j-℥ vij.  
 Sodæ biborat. . . . . ℥ ij.  
 Glycerinæ . . . . . ℥ ss.  
 Aq. dest. . . . . ad ℥ iv.—M.

Filter and use in vaporizer.

**The Antiseptic Value of Naphthol.**—MAXIMOVITCH, in recent experiments, found that alpha-naphthol is less toxic than beta-naphthol, of greater antiseptic value, and that the amount necessary to intoxicate a man of ordinary weight is about one pound.—*Gazette Hebdomadaire*, February 10, 1888.

**Zooplasmic Grafts.**—Surgeons are familiar with skin grafting in the human subject, but it is rather a novel procedure to substitute the skin of birds and poultry for snips from the patient's own healthy skin. Wiesmann twice transplanted skin from pigeon to pigeon with success, and three times from fowl to fowl. Under the title of *Dermepenthesis*, Mr. G. F. Cadogan-Masterman published some interesting cases a few weeks since in our columns, in which he had succeeded in utilizing the skin of young wild rabbits for the purpose of bringing about the cicatrization of raw and ulcerating surfaces. Several others have repeated and varied Wiesmann's experiments, but before Mr. Masterman none of them seem to have been enterprising enough to spare their patients the disagreeable snipping incidental to the operation as it is usually practised. At about the same time Dr. Redard communicated to the Paris Academy of Medicine some observations of his own with animal grafts on wounds in human beings. In a case of severe burn of the scalp of eight months' standing, in a child two years of age, he obtained rapid cicatrization by means of grafts from a fowl. He first tried grafts of frog's skin, but as these proved to be repulsive to patients, and did not give very good results, he substituted others from the fowl, and the wound, which measured three inches by two and a half, had completely healed in two months. He had been equally successful in other and subsequent cases. He takes the skin from beneath the wing of a chicken, carefully securing the subjacent cellular tissue, but avoiding adipose tissue. The transplanted pieces varied from a sixth to a third of an inch in size, and they were maintained in position by means of a little cotton-wool and iodoform gauze. The skin of birds and fowls has the advantage of being supple, delicate, and vascular; it adapts itself readily to the surface of the wound, and adheres without undergoing absorption.—*British Medical Journal*, February 18, 1888.

**Saccharin in Diabetes.**—PURDY, of Chicago, concludes as follows from his clinical observations upon saccharin, in the *Journal of the American Medical Association* of February 25, 1888:

*First.* That in this product we possess a flavoring agent for food and drink the palatability of which is quite

equal to that of the finer grades of sugar, and which may be used by diabetic patients with the greatest impunity.

*Second.* That through its antiseptic properties it retards the abnormal fermentative changes in the stomach so common in diabetic patients—thus promoting digestion and relieving flatulence.

*Third.* That while as yet we are without sufficient practical data to judge of its blood effects in large doses to diabetic patients, yet both chemistry and physiology would indicate its use for the purpose of favorably influencing some of the more fatal complications of the disease.

**What is a Stone in the Bladder?**—SIR HENRY THOMPSON describes the calculi which he considers "stone in the bladder" as follows, in a communication to the *British Medical Journal* of February 18, 1888:

I venture to think that twenty grains is the very lowest weight, in the adult, the removal of which should be esteemed an operation for stone in the bladder. And in chronic prostatic retention cases, where the phosphatic concretions so frequently and so rapidly form, I have never recorded anything as a stone which has not reached at least half a drachm.

There is another aspect of the matter, too, which cannot be lost sight of. I think that it is very undesirable, from more than one point of view, to convey an impression to any patient from whom a bit of gravel weighing two or four grains has been removed that he has undergone an operation for stone in the bladder, and that the custom might give support to objectionable practice.

I beg to submit these remarks to the consideration of my professional brethren, in the belief that it is desirable to have some general understanding as to the meaning of the term in question, and to adopt, if possible, a uniform method in the employment of it in future.

**The Treatment of Cold Abscesses by Iodoform in Ether.**—HOLSTEIN, in a recent Paris thesis, reports that in Verneuil's clinic in Paris, tuberculous abscesses have been treated for two years with iodoform dissolved in ether, with excellent results. Of 20 cases 11 were cured, 6 improved, and 3 unimproved by this treatment. After aspirating the contents of the abscess from two and a half to twelve and a half drachms of a 10 per cent. solution were injected once; in large abscesses as much as twenty-five drachms of a 5 per cent. solution were injected. If the ether proved irritating it was injected through an hypodermatic syringe. This method is especially useful where it is desired to avoid a scar.—*Centralblatt für Chirurgie*, No. 4, 1888.

**Antisepsis in Ophthalmology.**—SCHMEICHLER, in reviewing the advances of antisepticism, quotes the statistics of Arlt, 1700 cataract operations in eight years with a percentage of bad results of 2.06 per cent.; also Gräfe, at Halle, who performed 426 cataract operations without a bad result. He considers affections of the conjunctiva and tear sacs especially fitted for antiseptic treatment, and recommends solutions of corrosive sublimate and emulsions of iodoform, in varying strengths, for this purpose. Mercurials are to be used in 1 to 2000 and weaker solutions; the iodoform emulsion should be ten per cent.—*Präger med. Wochenschrift*, February 8, 1888.